

What is claimed is:

1. A composite pipe formed by a metallic pipe with inner lining, in particular of plastic material, resistant to
 5 corroding agents, wherein said inner lining is constituted by a prefabricated plastic material sleeve which is expanded inside the metallic pipe against its inner surface, interposing an adhesive means able to transmit mechanical loads, in order to transmit the internal pressure in the
 10 plastic material sleeve to the metallic pipe, preventing collapse of the plastic material sleeve when lacking internal pressure.

2. A manufacturing method of a composite pipe according to the present invention, wherein a prefabricated plastic
 15 material sleeve is inserted into a metallic pipe, interposing an adhesive means to transmit mechanical loads.

3. The manufacturing method of a composite pipe according to claim 2, wherein the prefabricated plastic material sleeve has an outer perimeter equal to or less than the inner perimeter
 20 of the metallic pipe, being said prefabricated plastic material sleeve grasped by one of its ends and dragged into the metallic pipe, applying an adhesive on its outer surface before or during its insertion into the metallic pipe; once the prefabricated plastic material sleeve is totally inserted
 25 into the metallic pipe, or at least its greater portion, both ends are sealed and the sleeve is expanded internally using a fluid under pressure until it evenly abuts the inner surface of the metallic pipe, the pressure being maintained until curing of the adhesive.

- 30 4. The manufacturing method of a composite pipe according to claim 2, wherein the flexible plastic material sleeve with an

outer perimeter slightly less than the inner perimeter of the metallic pipe, folded in a coil, is uncoiled by means of a cylinders train, with a first pair of drawing cylinders located next to the coil pressing the sleeve, and a second pair of forming cylinders, located next to the metallic pipe, which have respective concave and convex generatrix, the semicircular-shaped sleeve is inserted into the metallic pipe by the impulsion of the cylinders train until the end protrudes from the opposite end of the metallic pipe; the sleeve is then cut still folded in semicircular shape between the metallic pipe and the cylinders train, protruding the sleeve from the metallic pipe; then the sleeve is partially unfolded at both ends, sealed, and a heating fluid is injected to heat the sleeve, which is then expanded against the inner surface of the metallic pipe by means of said heating fluid under hydraulic pressure.

5. Use of a composite pipe according to claim 1 and/or manufactured by the method of claims 2 thru 4 for conveying chemical and/or mechanically aggressive fluids.